Content and Comparative Analysis of Japanese and United States Technical Communication Design Choices: A Case Study of Touch Display Product Data Sheets

Robyn Mueller | 2017 Writing Studies Spring Research Showcase

Introduction

Japan-United States Trade Relationship

Japan has long been an important trade partner with the United States. Japan was the fourth largest goods trading partner of the United States and the fourth largest export market in 2013 (Office of the United States Trade Representative, 2014). With Japanese consumers' interest in touch screen devices such as smart phones and handheld gaming devices, it is important for United States manufacturers of touch display technologies to understand how best to sell into the Japanese market.

Technical Communication in Business

Effective technical documentation is one way that a company can improve its chance of market success in the touch display business. By increasing the usability and appeal of technical information, the company can more effectively deliver the information to the user in a way that increases confidence in the product to promote sales. In order for a United States company to design effective technical documents for Japanese users, it is necessary to understand Japanese culture, communication, and how Japanese technical documents are designed.

Study Overview

This study first examines previous literature on Japanese culture, communication, and document design, then introduces the study methods, and finally discusses the results of the content and comparative analyses of Japanese and United States sample documents. The study methods include a grid analysis on touch display product data sheets from three Japanese and three United States companies (grids modified from Carpenter, 2005).

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Literature Review

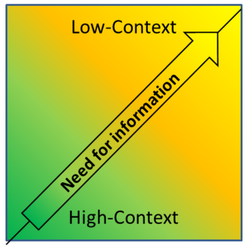
Ambiguity

- Ambiguity is prevalent in Japanese (Davies & Ikeno, 2002)
- Situation-focused language
  - Subjects and objects of sentences omitted
  - Focus is on situation itself rather than the people involved (Kohl et al., 1993)
- Few unique sounds
  - Many homophones
  - Context required to understand some spoken sentences (Nishimura et al., 2008)

High-Context

- Japan has a high-context culture
  - Long-standing relationships and strong behavioral norms are valued
  - Status, relationships, and shared history assign meaning to events
- Context is required to decode the intended meaning, rather than being explicitly stated

Edward T. Hall's Cultural Continuum



Methods

Content and Comparative Analyses

- Grid analysis to analyze product data sheets
- Companies:
  - Japanese: Eizo, Fujitsu, Panasonic
  - United States: 3M, Dell, and Elo
- Grids were modified from Carpenter (2005)
  - Visual analysis and Content Analysis
    - Kostelnick and Roberts' taxonomy for visual design (1998) and Felker et al. (1981)
    - Four levels of document design: intra, inter, extra, and supra

Grid 1: Visual Design Analysis

	Extra-Level Design: Textual	Extra-Level Design: Spatial	Extra-Level Design: Graphical	Supra-Level Design: Textual	Supra-Level Design: Spatial	Supra-Level Design: Graphical
Line Drawings						
Photographs						
Cartoons						
Safety, Warning, Caution, and Regulatory Graphics						
Graphs, Figures, Tables						
Other Visual Elements						
Notes:						

Grid 2: Content Analysis Grid

	Format (paragraph, list, table, diagram, figure, etc.)	Explicit use of labels, titles, callouts, units, etc.	Presence of explanatory language	Passive or active voice? Is the document written as a list of facts, or in a conversational tone?	Formality of language
Product Name Section					
Product Explanation					
Product Use					
Product Specifications and features					
Product Appearance					
Safety, Disclaimer, Regulatory, Warranty, Limitation of Liability Information					
Company Contact Information					


Panasonic

80V型タッチスクリーン液晶ディスプレイ

TH-80BF1J

機器定格（定格および外観は、予告なく変更する事があります）

■ ディスプレイパネル

画面サイズ	80v型 (2032 mm)
液晶パネル / バックライト	LCD VA panel / E-LED
アスペクト比	16:9
画面有効寸法 (W x H)	1771 x 996 mm
解像度 (H x V)	1920 x 1080画素
輝度	350 cd/㎡ (typ.)
コントラスト	5000:1 (typ.)
ダイナミックコントラスト	50000:1
応答時間	4 ms (G to G)
視野角 (上下 / 左右)	176度 / 176度 (CR≧10)
パネル寿命*2	約 50000 時間 (typ.)

*1：ディスプレイのバリ型は、有効画面の対角寸法を基準とした大きさの目安です。
*2：パネル寿命は環境温度25 ℃ (±2 ℃) 下における1日4時間使用で維持率が最初の目安です。使用環境によって寿命は短くなる場合があります。

■ タッチパネル

検出方式	赤外線遮断方式
タッチ操作	最大12点マルチタッチ*

* ホワイトボードソフトウェア（Windows®版）使用時。内蔵ホワイトボード・ホワイトボードソフトウェア（Mac版）使用時は最大4点まで。


elo

- "Designed for Touch" with proven Elo expertise and reliability
- Pure-glass touchscreen for optimal image quality
- 3 year warranty

1291L 12.1-inch Open-Frame Touch Displays

The Elo 1291L 12.1" open-frame LCD touch display features a slim design and narrow outside dimensions due to the state-of-the-art energy-saving LED backlight, using less electricity to operate and generating less heat. The 1291L instantly grabs and holds the users' attention for kiosks, casino and amusement, retail self-service, and industrial floor automation.

PRODUCT OVERVIEW

Benefits

- Choice of Elo touch technologies: **Standard bezel:** IntelliTouch SAW **Zero-bezel:** Projected capacitive
- PCAP 2GS (two glass solution) offers pristine optical clarity and touch durability
- Touchscreen sealed against dirt, dust and liquids
- LED backlighting allows for state-of-the-art slim design while reducing power consumption
- 10 touch projected capacitive (PCAP) with Thru-glass capabilities that passes UL-60950 & IK-07 impact testing
- Display Port and VGA video interfaces

including IntelliTouch® single-touch surface acoustic wave (SAW), and Elo's latest projected capacitive (PCAP) 2GS (two glass solution) multi-touch display with zero-bezel, offering both a ten touch "tablet like" interactive experience along with thru-glass functionality - both modes support single or dual latex gloves as well as cloth gloves.

Application

Results

- All samples were written left-to-right, horizontally, and in portrait-orientation
- Placement and size of visual elements, and likelihood of having titles, captions, or labels seemed no different between Japanese and United States samples
- Japanese samples
  - Line drawings and cartoons
    - United States samples contained neither
  - Around 3.2 times more tables and 2.9 times more row headings than U.S. samples
  - Longer by about 2 pages and contained more visual elements than United States samples
    - 3.6 versus 3.1 visual elements per page, respectively

Table 1: Japanese and U.S. Sample Summary

	Japanese	United States
Average Number of Pages	4.7	2.7
Average Number of Visual Elements	16.7	8.3
Average Number of Visual Elements per Page	3.6	3.1
Average Number of Tables	7.3	2.3
Average Number of Table Row Headings	85.7	29.7

Table 2: Visual Elements

	Japanese	United States
Average Number of Line Drawings	9.3	0
Average Number of Photographs	1.7	5
Average Number of Cartoons	1.3	0
Average Number of Safety, Warning, Caution, and Regulatory Graphics	1.3	0.7
Average Number of Graphs, Figures, Tables	0.7	0
Average Number of Other Visual Elements	2.3	2.7

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